



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re patent application of:)	Before the Examiner:
Charles L. Branch et al.)	Pedro Philogene
)	
Application Serial No.: 09/870,023)	Group Art Unit: 3731
)	
Filed: May 30, 2001)	Ref. No.: MSDI-213/ PC365.05
)	
INTERBODY FUSION GRAFTS)	
AND INSTRUMENTATION)	

**DECLARATION OF PRIOR INVENTION IN THE UNITED STATES
TO OVERCOME CITED PATENT OR PUBLICATION (37 C.F.R. §1.131)**

We, Charles L. Branch, Mingyan Liu, Lawrence M. Boyd and Loic Josse, hereby declare as follows:

1. We are each listed as a joint inventor of the subject matter disclosed and claimed in the subject patent application (hereafter the "Invention").
2. The subject application claims priority to and is a divisional of U.S. Patent Application Serial No. 09/698,623 filed on October 27, 2000 and issued as U.S. Patent No. 6,610,065, which is in turn a divisional of U.S. Patent Application Serial No. 09/181,353 filed on October 28, 1998 and issued as U.S. Patent No. 6,174,311.
3. This Declaration is being provided to establish a date of conception and reduction to practice of the Invention in the United States on a date prior to August 3, 1998, which is the purported effective filing date of U.S. Patent No. 6,258,125 to Paul et al. that was cited in a non-final Office Action mailed to the Applicant on April 26, 2006 in the subject patent application.
4. On a date prior to August 3, 1998, the Invention was conceived of by the joint inventors.
5. On a date prior to August 3, 1998, the Invention was successfully reduced to practice in the United States.
6. To evidence conception and reduction to practice of the Invention, attached hereto is an Invention Disclosure that includes drawings and a description of the Invention which correspond to the subject matter disclosed and claimed in the subject patent application. The

dates listed on the Invention Disclosure have been blacked out, as well as dimensional data associated with the Invention. However, we declare that the "Date of Conception" and the "Date Constructed" occurred prior to August 3, 1998.

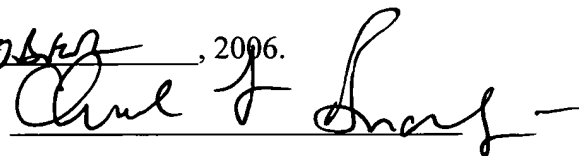
7. On a date prior to August 3, 1998 and shortly after the Invention was reduced to practice, the Invention was tested in the United States.

8. We declare that the "Date First Tested" listed on the Invention Disclosure occurred prior to August 3, 1998.

9. Shortly after construction and testing of the Invention, the Invention Disclosure was forwarded to the law firm of Woodard, Emhardt, Naughton, Moriarity & McNett for preparation of a patent application.

10. A patent application disclosing and claiming the Invention set forth in the Invention Disclosure was filed with the U.S. Patent and Trademark Office on October 28, 1998. (U.S. Patent Application Serial No. 09/181,353; issued as U.S. Patent No. 6,174,311).

WITNESS Declarant's hand this 16 day of October, 2006.



Charles L. Branch

WITNESS Declarant's hand this _____ day of _____, 2006.

Mingyan Liu

WITNESS Declarant's hand this _____ day of _____, 2006.

Lawrence M. Boyd

WITNESS Declarant's hand this _____ day of _____, 2006.

Loic Josse

dates listed on the Invention Disclosure have been blacked out, as well as dimensional data associated with the Invention. However, we declare that the "Date of Conception" and the "Date Constructed" occurred prior to August 3, 1998.

7. On a date prior to August 3, 1998 and shortly after the Invention was reduced to practice, the Invention was tested in the United States.

8. We declare that the "Date First Tested" listed on the Invention Disclosure occurred prior to August 3, 1998.

9. Shortly after construction and testing of the Invention, the Invention Disclosure was forwarded to the law firm of Woodard, Emhardt, Naughton, Moriarity & McNett for preparation of a patent application.

10. A patent application disclosing and claiming the Invention set forth in the Invention Disclosure was filed with the U.S. Patent and Trademark Office on October 28, 1998. (U.S. Patent Application Serial No. 09/181,353; issued as U.S. Patent No. 6,174,311).

WITNESS Declarant's hand this 18th day of October, 2006.

Charles L. Branch

WITNESS Declarant's hand this 18th day of October, 2006.

Mingyan Liu

WITNESS Declarant's hand this _____ day of _____, 2006.

Lawrence M. Boyd

WITNESS Declarant's hand this 17 day of OCTOBER, 2006.

Loic Josse

dates listed on the Invention Disclosure have been blacked out, as well as dimensional data associated with the Invention. However, we declare that the "Date of Conception" and the "Date Constructed" occurred prior to August 3, 1998.

7. On a date prior to August 3, 1998 and shortly after the Invention was reduced to practice, the Invention was tested in the United States.

8. We declare that the "Date First Tested" listed on the Invention Disclosure occurred prior to August 3, 1998.

9. Shortly after construction and testing of the Invention, the Invention Disclosure was forwarded to the law firm of Woodard, Emhardt, Naughton, Moriarity & McNett for preparation of a patent application.

10. A patent application disclosing and claiming the Invention set forth in the Invention Disclosure was filed with the U.S. Patent and Trademark Office on October 28, 1998. (U.S. Patent Application Serial No. 09/181,353; issued as U.S. Patent No. 6,174,311).

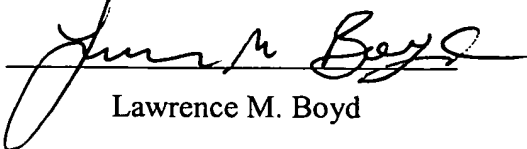
WITNESS Declarant's hand this _____ day of _____, 2006.

Charles L. Branch

WITNESS Declarant's hand this _____ day of _____, 2006.

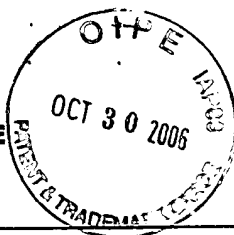
Mingyan Liu

WITNESS Declarant's hand this 19th day of October, 2006.


Lawrence M. Boyd

WITNESS Declarant's hand this _____ day of _____, 2006.

Loic Josse

**INVENTION DISCLOSURE**Disclosure No. 00014

Project No. _____

Sheet 1 of 23

Title of Invention Impacted Bone PLIF implant and instrumentation			Project No. or Name		
Inventor(s) Charles L. Branch, M.D., Mingyan Liu, Lawrence M. Boyd, Loic Josse			Eng. Notebook No. & Pages		
Date Conceived [REDACTED]	Date Constructed [REDACTED]	Date First Tested [REDACTED]	Date Disclosed [REDACTED]		
<p>1. Describe what is new or different about the subject matter of this invention:</p> <p>Implant and instrumentation designs, which allow for a posterior lumbar interbody fusion (PLIF) procedure using a cortical bone implant, the implant insertion being achieved by impacting it into the disc space. The implant is cut from a human donor femur taking advantages of the load bearing structure and the given geometry of the femur bone. The versatile instrumentation design provides with a large variety of solutions for a PLIF surgery in terms of 1). Nerve root retraction, 2). Disc distraction and lordosis restoration, 3). Endplate preparation. A special inserter is designed for implant holding and insertion.</p> <p>2. Advantages of this invention over what was done before and problems solved:</p> <p>Increased safety by reducing posterior exposure to the disc and as a consequence reducing manipulation on the spinal neuro-structure. More efficient and reliable nerve root retraction and protection. More efficient and precise disc space restoration and endplate preparation. The implant design allows an optimal donor bone yield. The implant inserter provides with an X-ray marking for assessing intra-operatively the implant positioning.</p> <p>3. Describe your idea on attached sheets, providing whatever drawings or other sketches are necessary to completely describe the idea. Copies of engineering notebook sheets may be provided. All addendum sheets must be signed, witnessed and dated.</p> <p>See attached sheets.</p>					
Inventor (Print/Type) Charles L. Branch, M.D. Address: PO BOX 320 ADVANCE, NC 27006 Citizenship: USA Signature: <i>[Signature]</i> Date: <i>[REDACTED]</i>			Witness (Print/Type) BRADLEY T. ESTES Read, Witnessed and Understood Signature: <i>[Signature]</i>		
Inventor Mingyan Liu Address: 41, rue de la Fontaine Grelot 92340 Bourg-la-Reine, France Citizenship: Chinese Signature: <i>[Signature]</i> Date: <i>[REDACTED]</i>			Witness (Print/Type) Debra Jourdan Read, Witnessed and Understood Signature: <i>[Signature]</i>		
Inventor Lawrence M. Boyd Address: 688 S. McLean Blvd Memphis, TN 38104 Citizenship: U.S. Signature: <i>[Signature]</i> Date: <i>[REDACTED]</i>					
Inventor Loic Josse Address: 13 LA PLANA 115700 PALAUA FRANCE Citizenship: FRANCH Signature: <i>[Signature]</i> Date: <i>[REDACTED]</i>					



INVENTION DISCLOSURE

Disclosure No. 00014

Project No. _____

Sheet 2 of 23

List patents, publications and products which you are aware of and which preceded your invention.

Related products:

Brantigan PLIF implant and instrumentation (AcroMed).

Ogival cage (Stryker)

Contact cage (Synthes)

Inventor Charles L. Branch

Date

Read, Witnessed and Understood

Inventor Mingyan Liu

Date

Read, Witnessed and Understood

Inventor Lawrence M. Boyd

Date

Inventor Loic Josse

Date



INVENTION DISCLOSURE

Disclosure No. 00014

Project No. _____

Sheet 3 of 23

Drawings and Description of Idea

See attached drawings.

Inventor Charles L. Branch

Date

Read, Witnessed and Understood

Inventor Mingyan Liu

Date

Read, Witnessed and Understood

Inventor Lawrence M. Boyd

Date

Inventor Loic Josse

Date

A handwritten signature in black ink, appearing to be 'Loic Josse', written over a horizontal line.

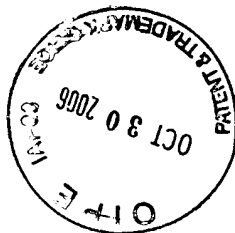
A solid black rectangular redaction mark covering the date field for the inventor Loic Josse.

A solid black rectangular redaction mark located at the bottom right of the page.

4123

[illegible]

X



SCALE 1,000



**SOFAMOR
DANEK**

SOFAWOR DANKEK USA
1000 PRIORITY PLACE MEMPHIS TN 38112 U.S.A.
PH. 901-295-3133 FAX. 901-341-5375

SOFAWOR DANKEK MANUFACTURING
100 PRIORITY DRIVE WILLOW LAKE IL 61350 U.S.A.
PH. 219-757-0275 FAX. 219-718-0272



CONTENTS OF THIS MEETING ARE BASED
ON THE SCIENCE BASE
INTERPRETATION OF ASME 114, 51-1994

031313ZS ESTER J200301

1. DO NOT SCALE CHAIRING
2. REMOVE ALL BURNERS AND
SHARP EDGES 0.5 MAX.
3. 0.8/ FINISH UNLESS NOTED

INFORMATION CONTAINED IN THIS DOCUMENT IS CONSIDERED PROPRIETARY TO SOWAN BAKA. RELEASE OTHER THAN TO PERSONS FOR WHICH IT IS REQUIRED IN PERFORMANCE OF THEIR DUTY FOR SOWAN BAKA IS NOT AUTHORIZED.

APPROVED BY	DATE
JL	

IMPACTED PLIF DOWEL

TRIAL

1

POWELA36

5/23

FINAL DRAWING

6123

6123

6123

REV	DESCRIPTION	DATE	BY
A	INITIAL RELEASE	I	X

SCALE 1,000

SCALE 5,000

SECTION CI-CI

SCALE 5,000

SCALE 5,000

SCALE 5,000

SCALE 5,000

SCALE 5,000

SCALE 5,000

SCALE 5,000

SCALE 5,000

SCALE 5,000

SCALE 5,000

SCALE 5,000

SCALE 5,000

SCALE 5,000

SCALE 5,000

SCALE 5,000

SCALE 5,000

SCALE 5,000

SCALE 5,000

SCALE 5,000

SCALE 5,000

SCALE 5,000

SCALE 5,000

SCALE 5,000

SCALE 5,000

SCALE 5,000

SCALE 5,000

SCALE 5,000

SCALE 5,000

SCALE 5,000

SCALE 5,000

SCALE 5,000

SCALE 5,000

SCALE 5,000

SCALE 5,000

SCALE 5,000

SCALE 5,000

SCALE 5,000

SCALE 5,000

SCALE 5,000

SCALE 5,000

SCALE 5,000

SCALE 5,000

SCALE 5,000

SCALE 5,000

SCALE 5,000

SCALE 5,000

SCALE 5,000

SCALE 5,000

SCALE 5,000

SCALE 5,000

SCALE 5,000

SCALE 5,000

SCALE 5,000

SCALE 5,000

SCALE 5,000

SCALE 5,000

8123

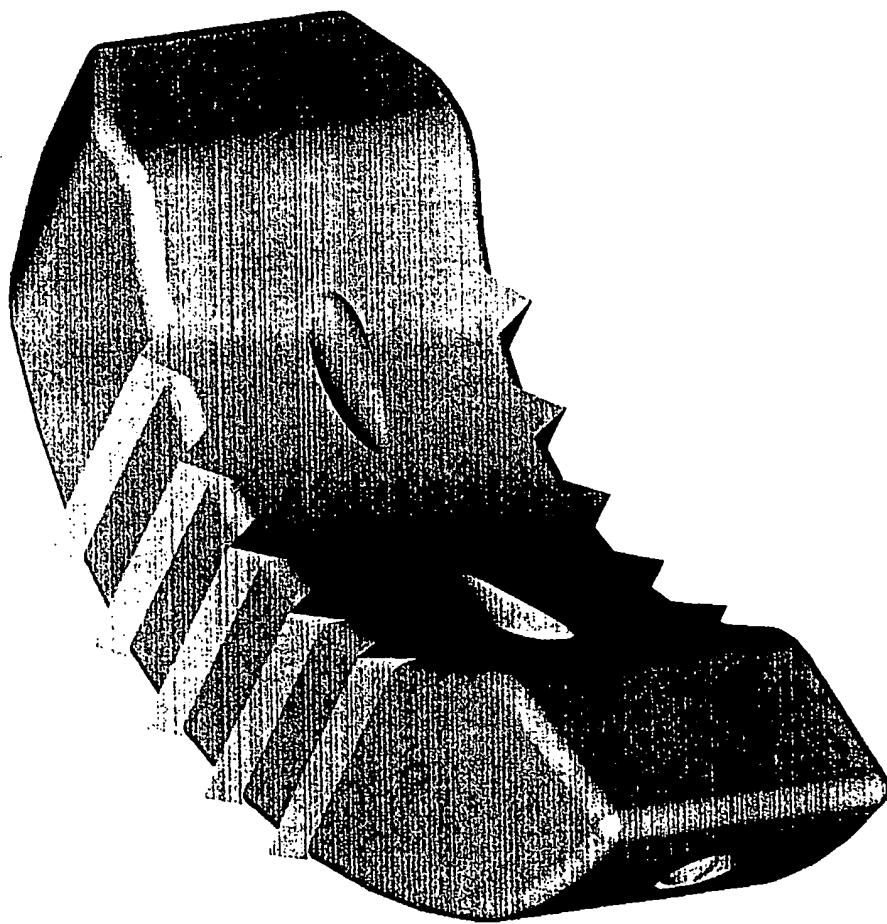
ALL ALUMINIUM PARTS HARD ANODIZE COLOR NONE FINAL DRAWING

4449

9/23

Bone Implant, 3rd Version

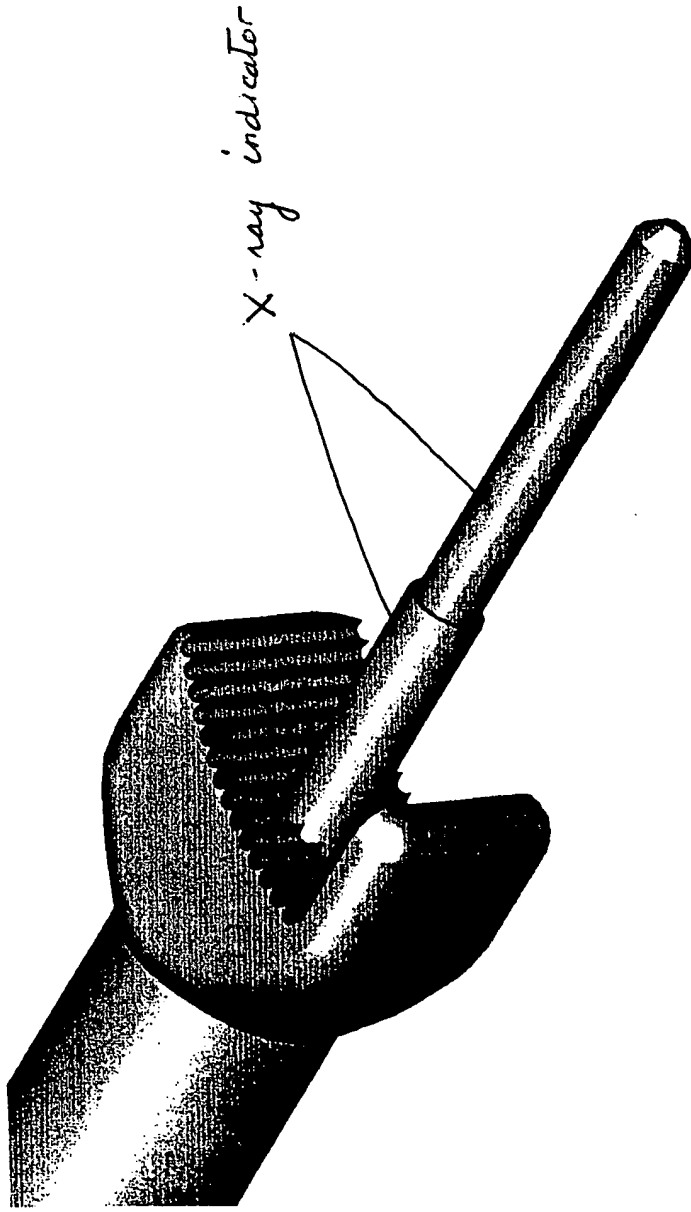
cut from a human donor femur



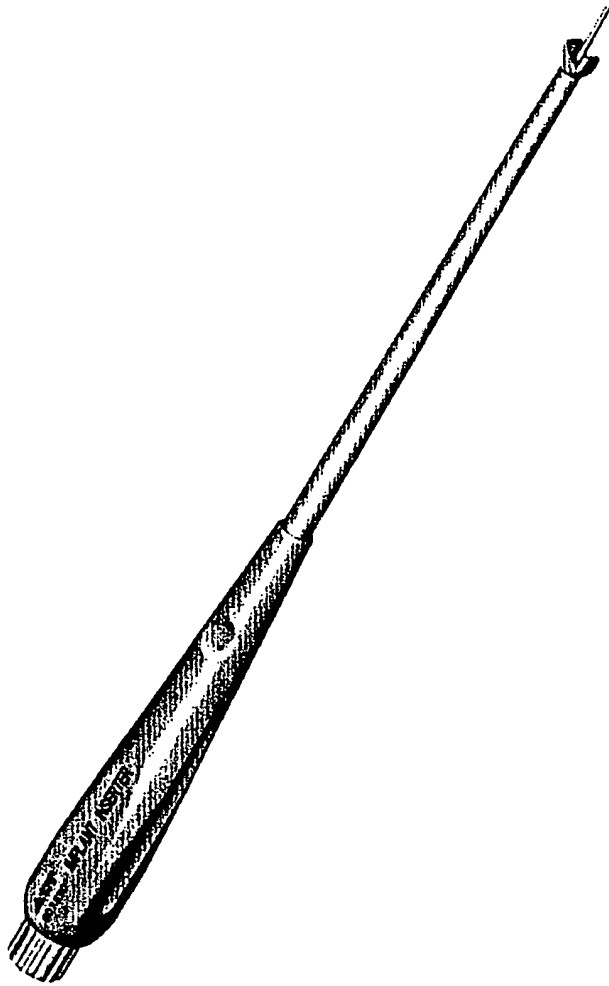
5/49

10/23

Implant Holding System. 3rd Version



Implant Insertion, 3rd Version



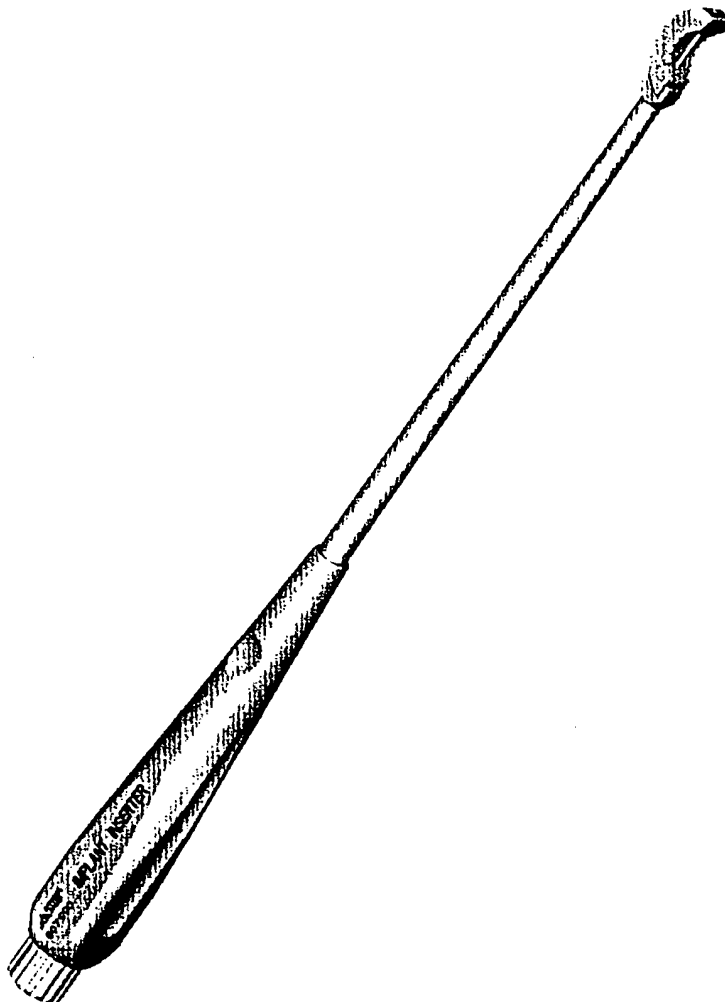
6449

11/23

7779

12/23

Implant holding

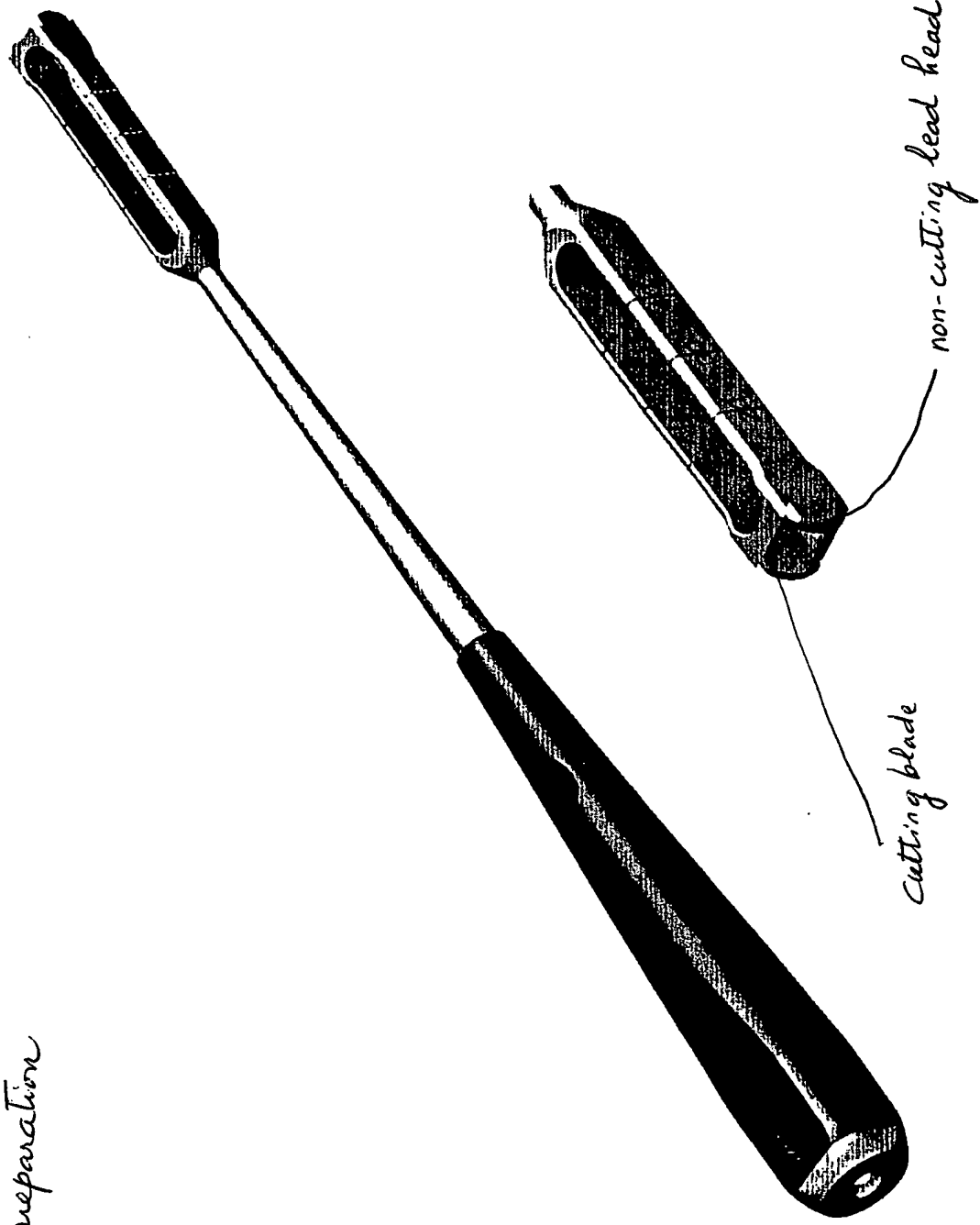


8749

13/23

Box chisel

implant specific instrument
for endplate preparation

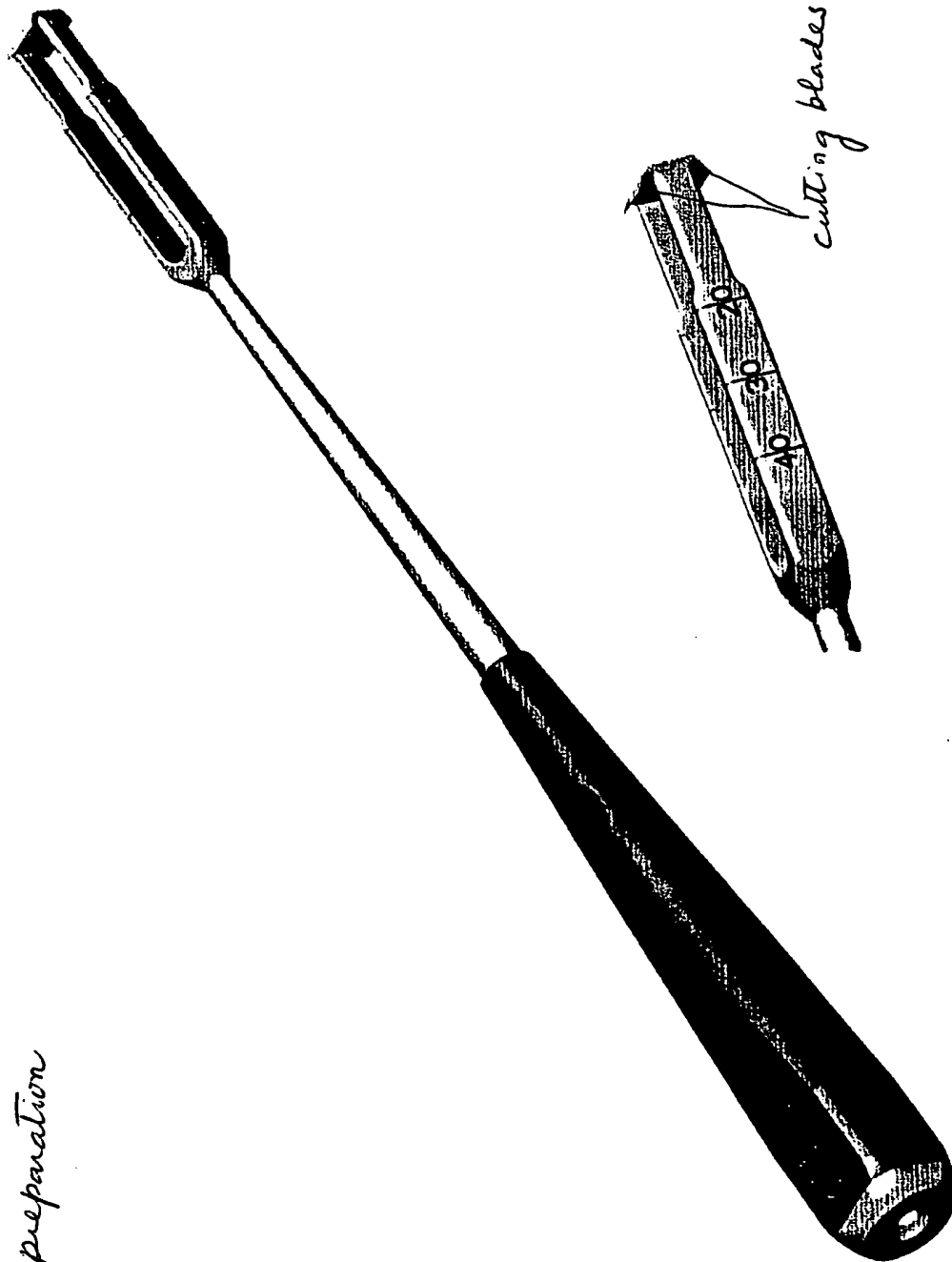


9/19

14/23

Shaver

implant specific instrument
for endplate preparation

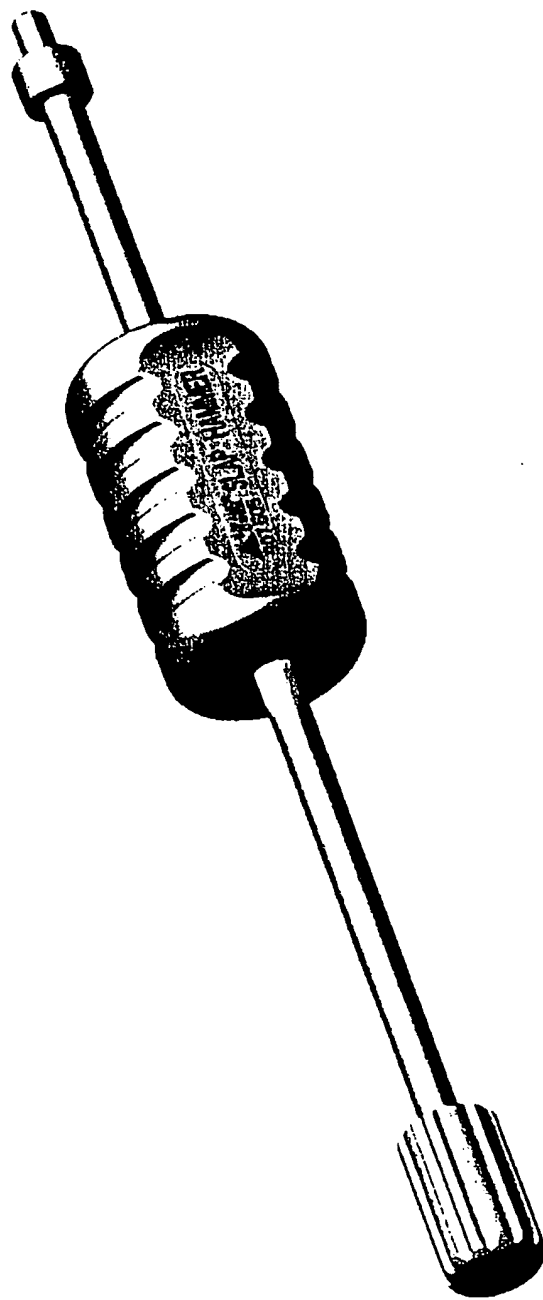


10719

15/23

Slap-hammer

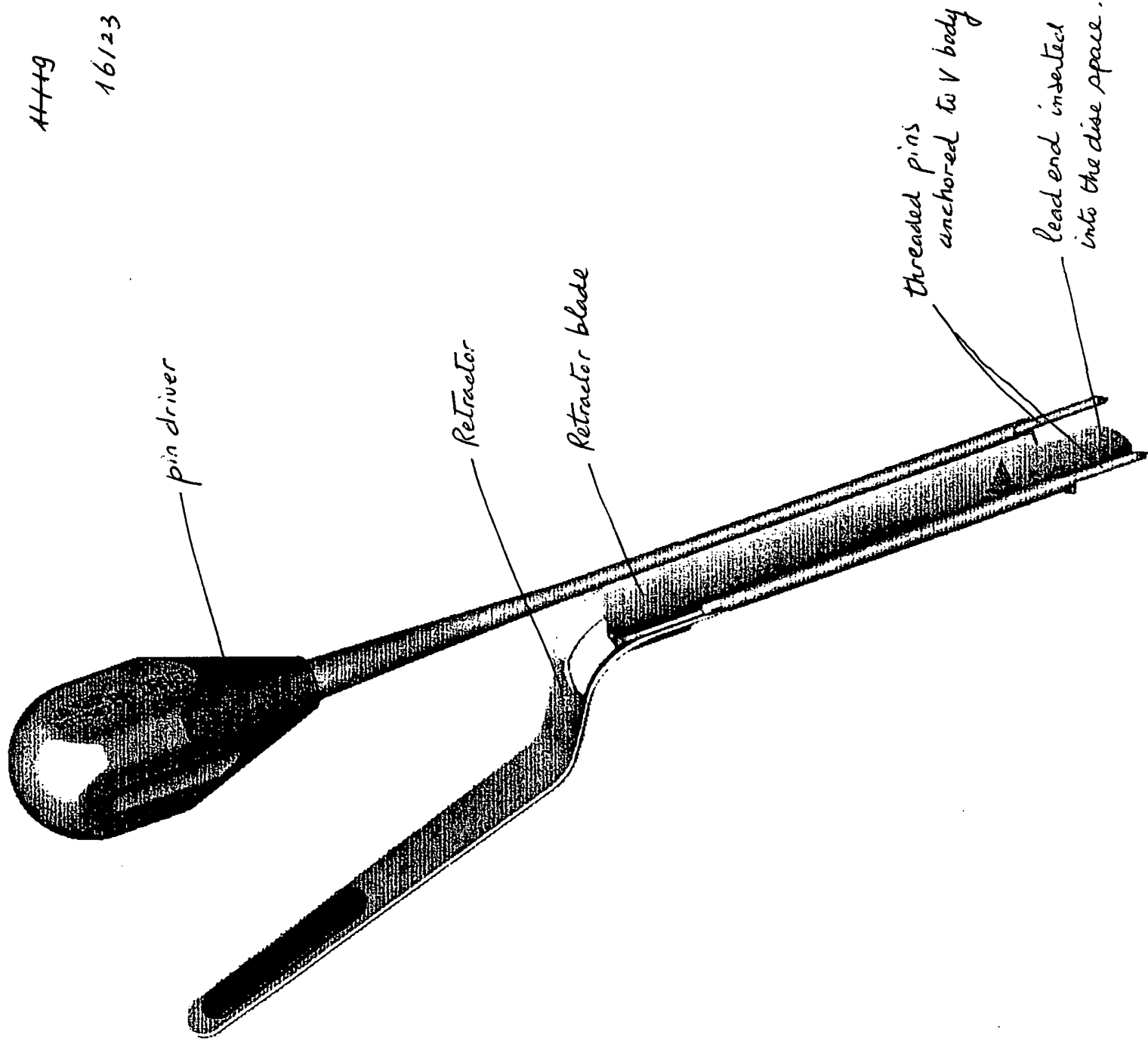
for endplate cutter extraction



Nerve Root Retractor

HHH9

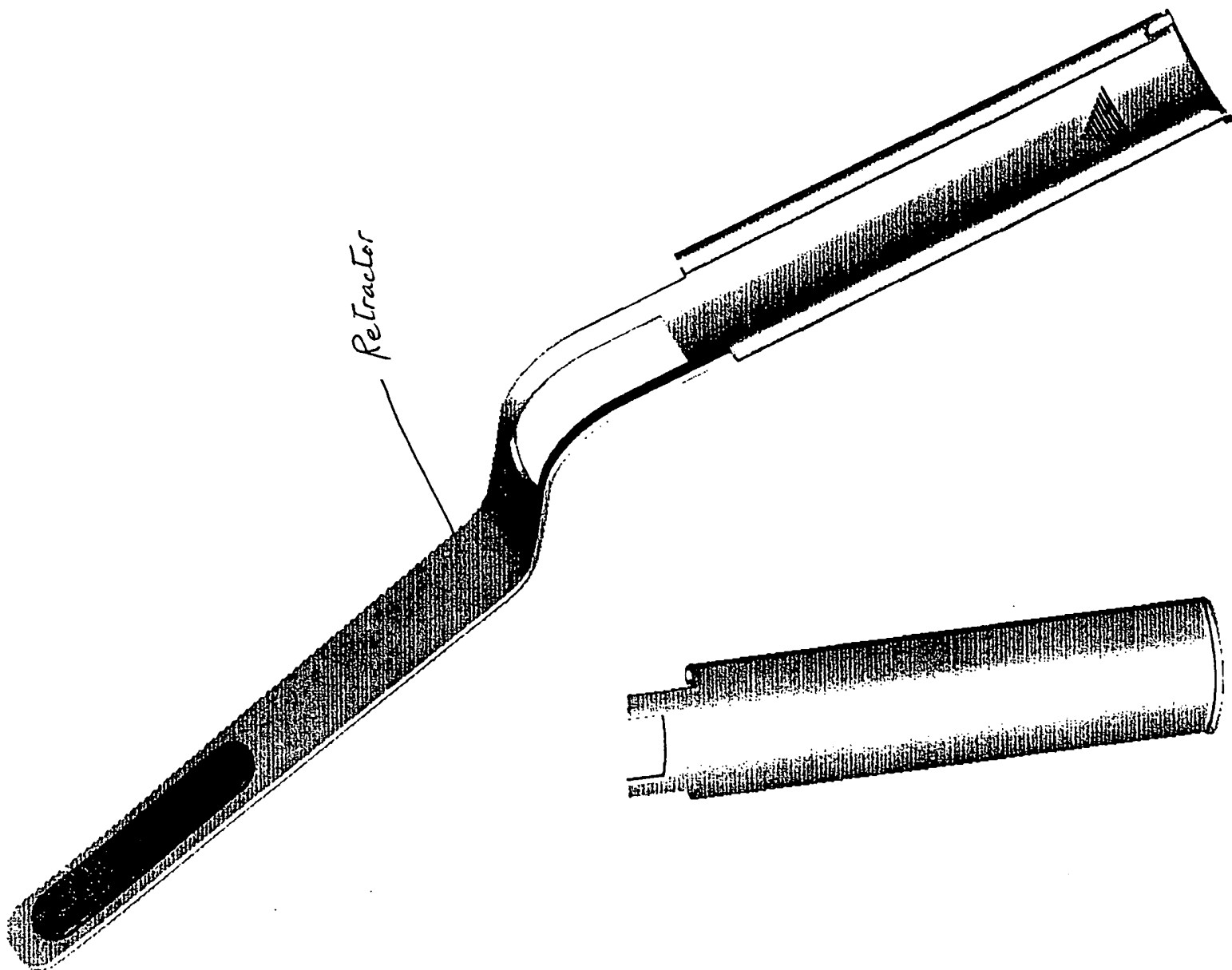
16/23

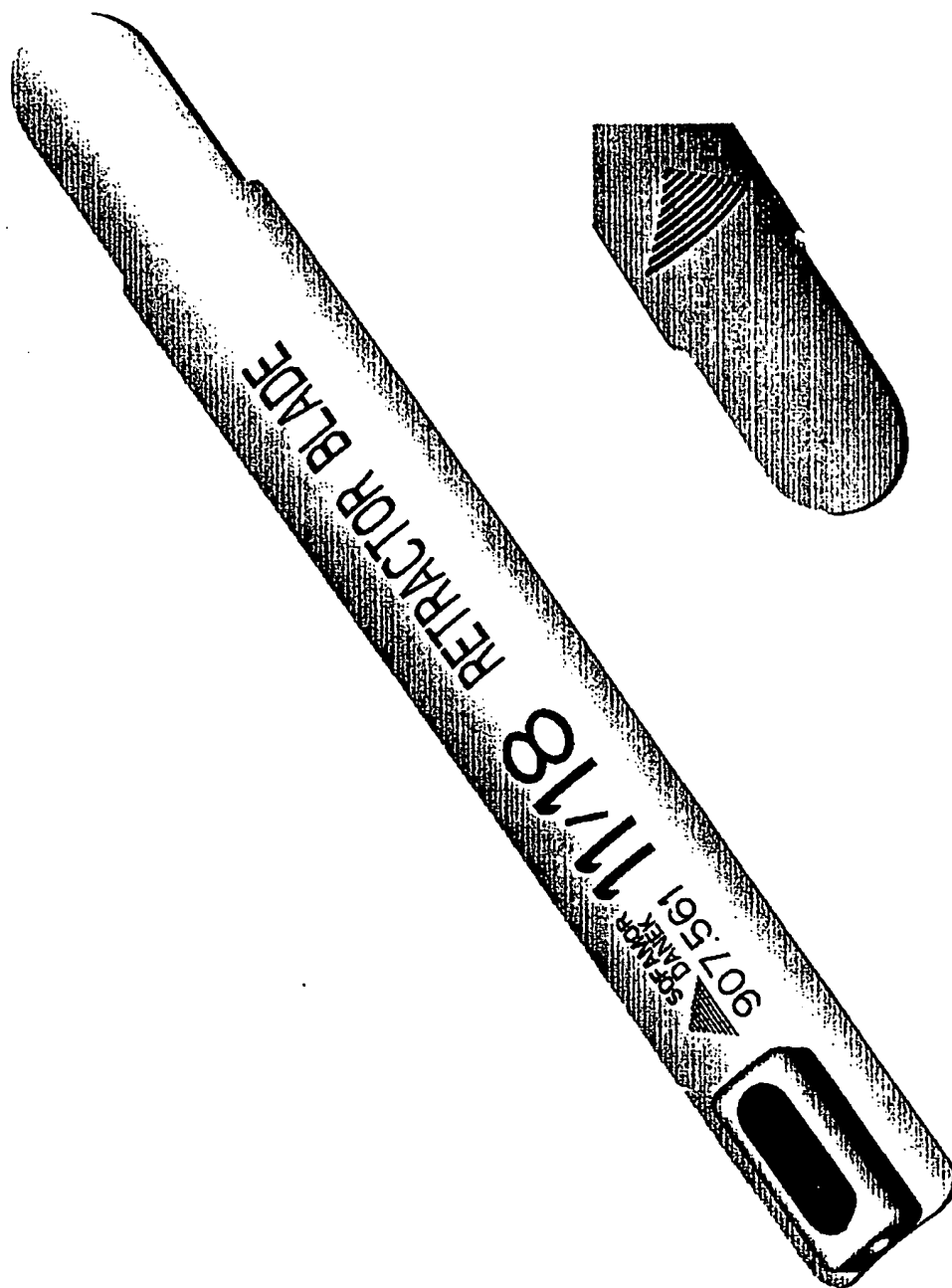


12719

17123

Retractor





Retractor Blade

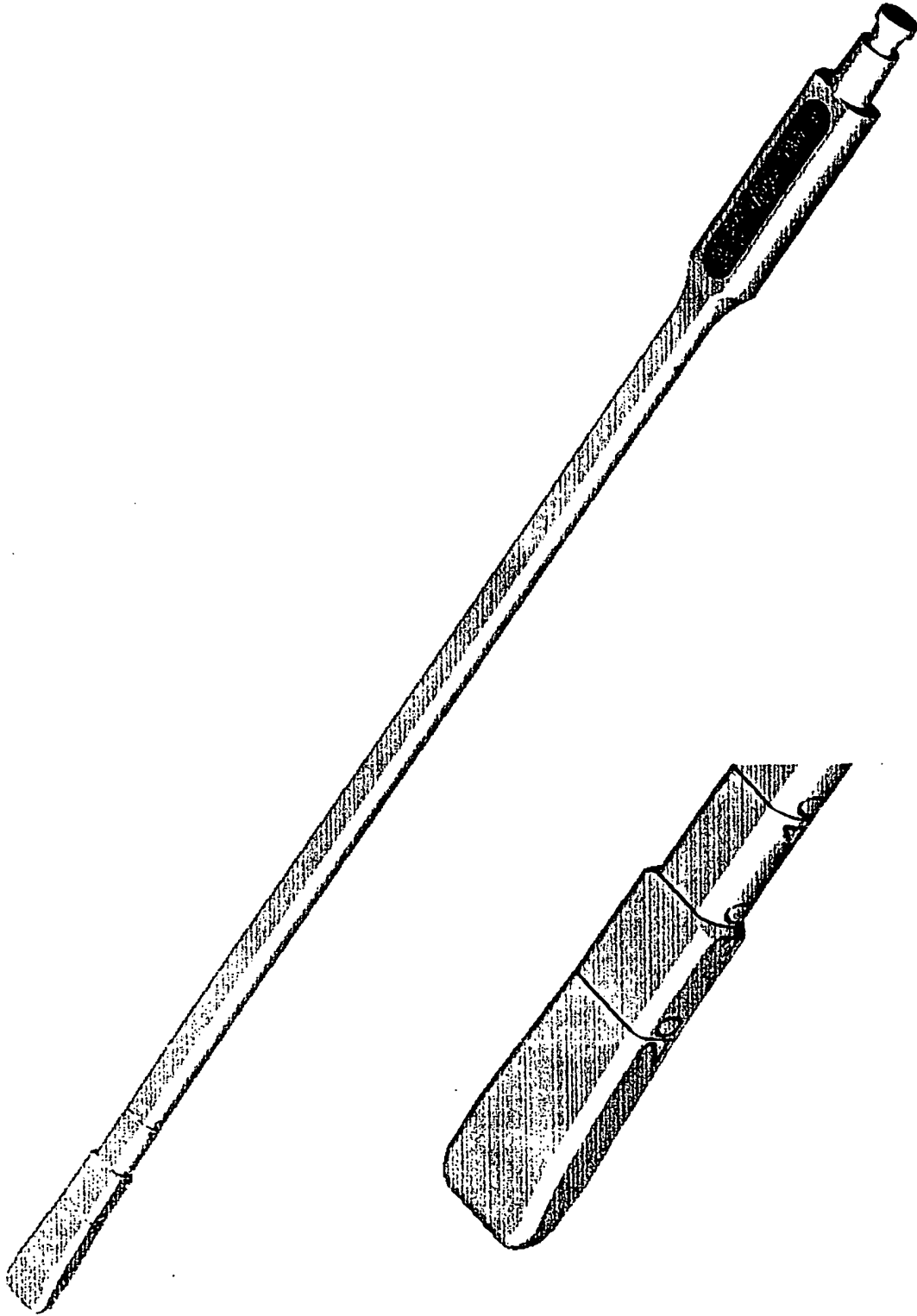
13774

18/23

15/49

19/23

Disc distractor (turn-rotate)

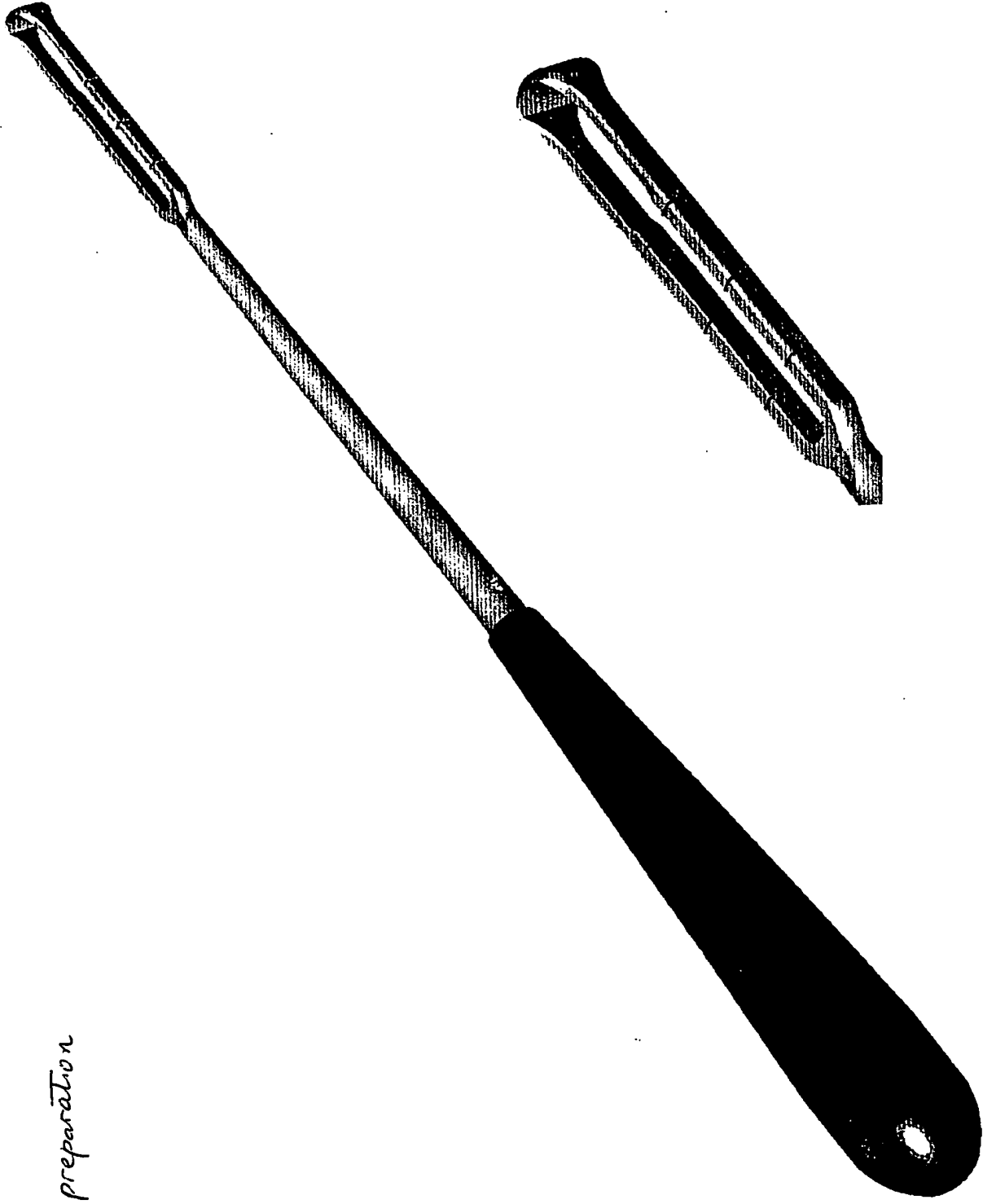


16/19

20/23

Round Scraper

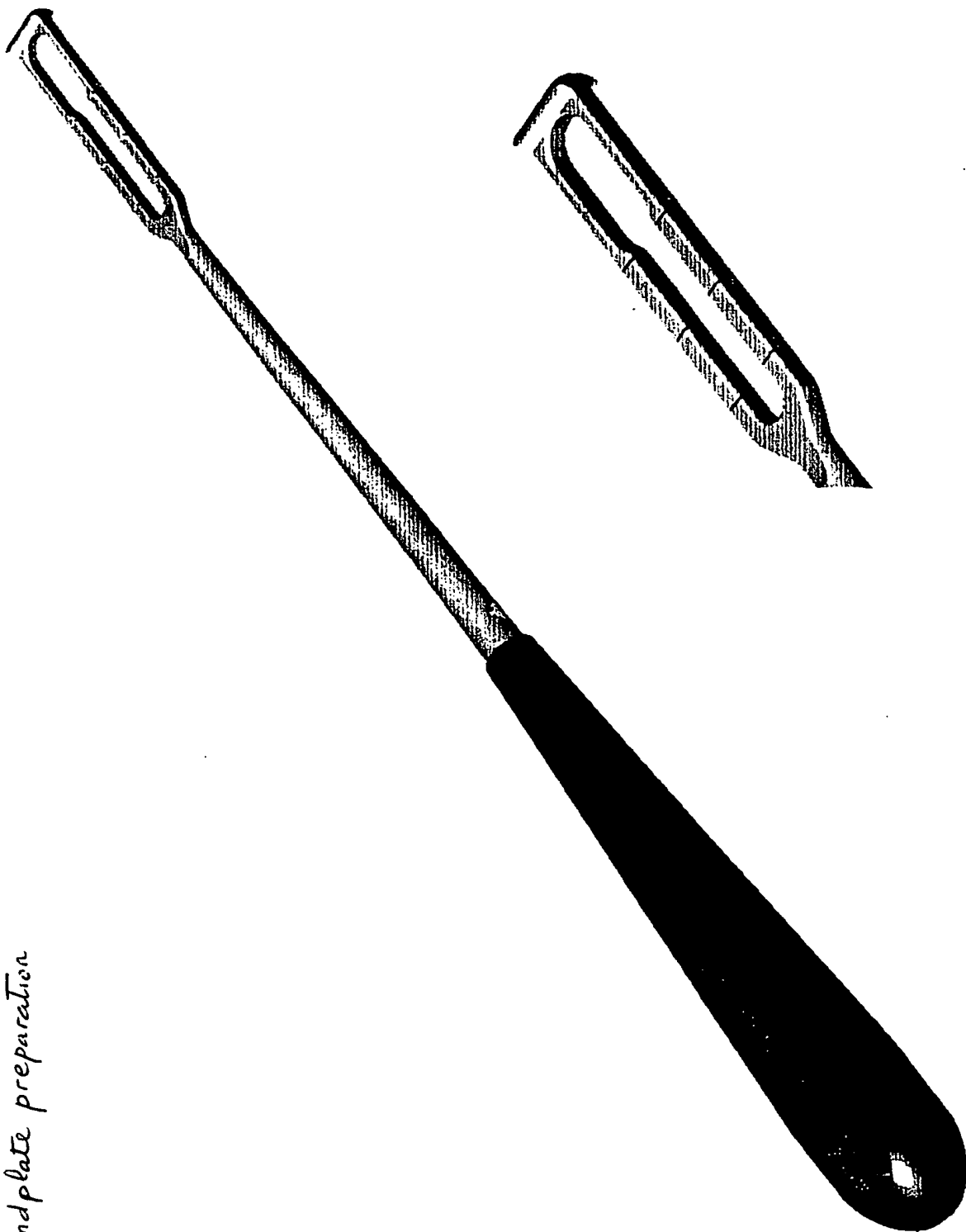
End plate preparation



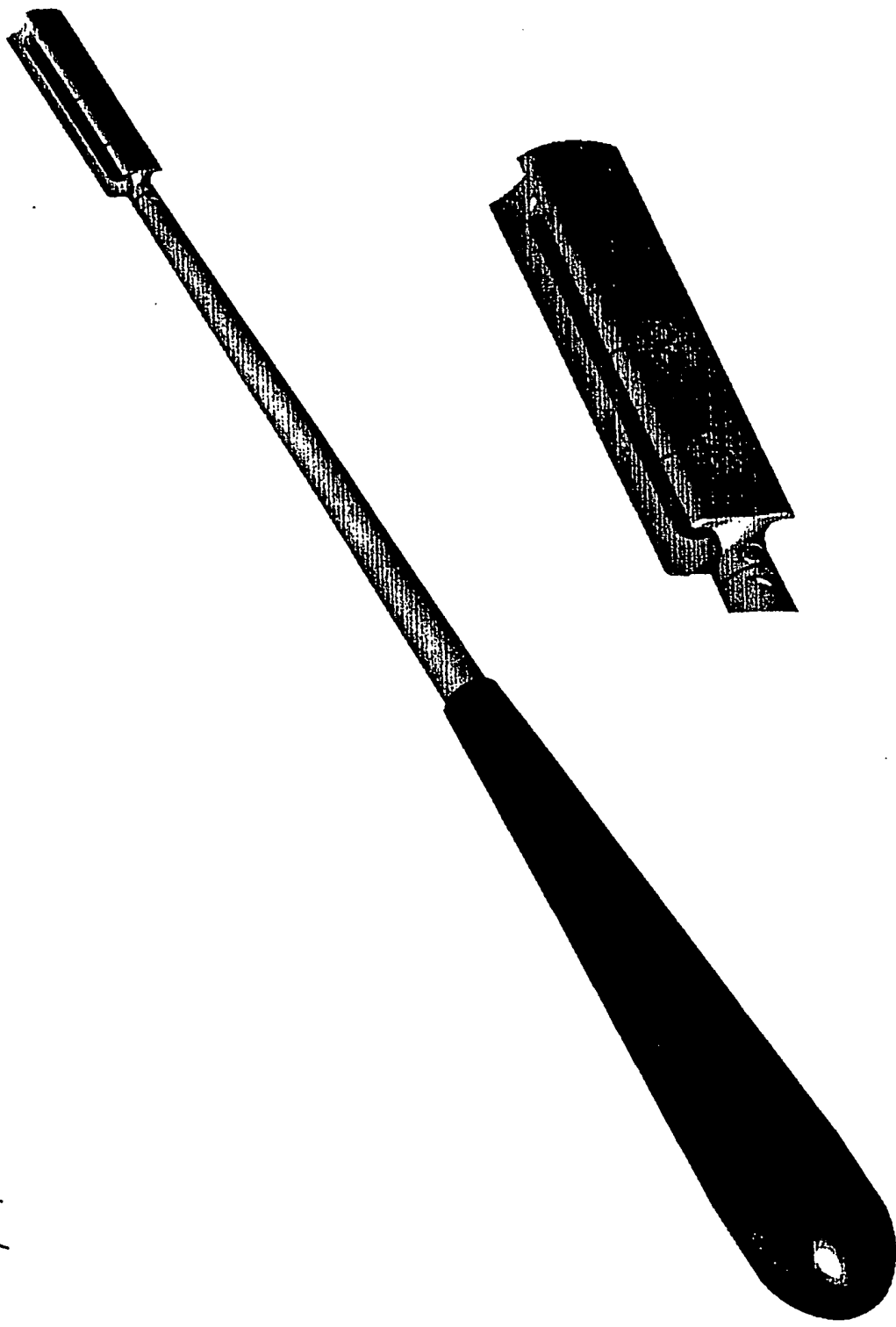
17/119

24/23

Plane Scraper
for end plate preparation



Rotate cutter
for endplate preparation



18/18

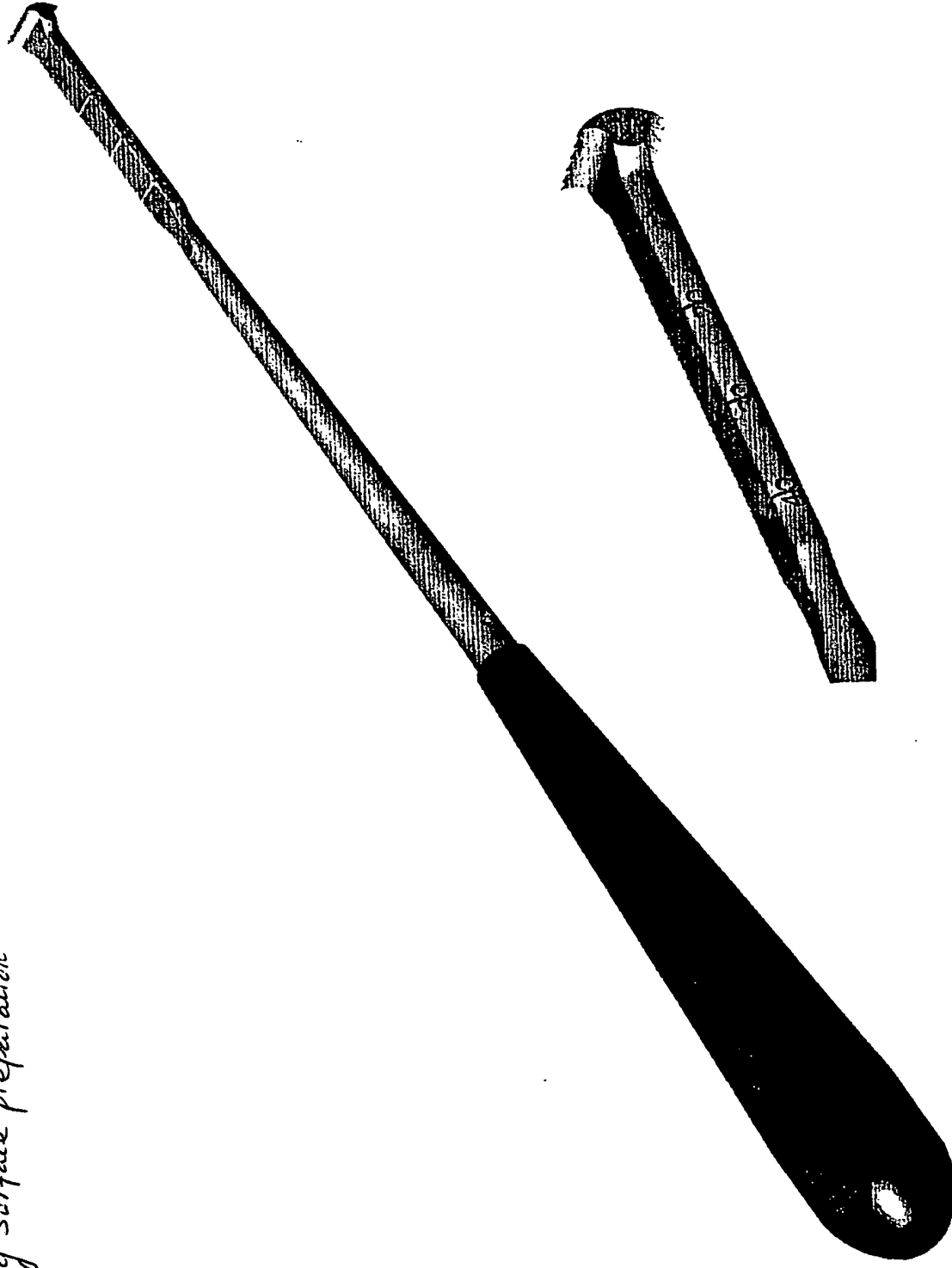
22/23

Toothed Scraper

for bleeding surface preparation

1944g

23/23



**This Page is Inserted by IFW Indexing and Scanning
Operations and is not part of the Official Record**

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☒ **BLACK BORDERS**
- ☐ **IMAGE CUT OFF AT TOP, BOTTOM OR SIDES**
- ☐ **FADED TEXT OR DRAWING**
- ☒ **BLURRED OR ILLEGIBLE TEXT OR DRAWING**
- ☐ **SKEWED/SLANTED IMAGES**
- ☐ **COLOR OR BLACK AND WHITE PHOTOGRAPHS**
- ☐ **GRAY SCALE DOCUMENTS**
- ☒ **LINES OR MARKS ON ORIGINAL DOCUMENT**
- ☐ **REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY**
- ☐ **OTHER:** _____

IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.